Emplying Geospatial Genealogy to Reveal Residential and Kinship Patterns in a Pre-Holocaust Ukrainian Village

Digital Humanities Workshop
University of Kansas
September 2011

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Overview

- Rawa Ruska
- Geospatial macrogenealogy
- Cadastral maps from the Austrian Empire
- GIS for geospatial macrogenealogy
- Google Earth applications
Rawa Ruska

- Rawa Ruska, Ukraine, located on the Rata River near the Polish border (Galicia)
- Founded in the mid-fifteenth century
- Over time its governance shifted among Austria-Hungary, Poland, Nazi Germany, the USSR, and now Ukraine
- Long a “mixed” town of Polish, Ukrainian, and Jewish inhabitants, now it is almost entirely Ukrainian
Galicia - 1897

Rawa Ruska
Rawa Ruska and World War II

- Site of a Nazi prison camp for French POWs
- Located on the RR track to the nearby Belzec extermination camp
- Jews of Rawa Ruska were killed at nearby execution sites (the “Holocaust by Bullets”) or at Belzec
- Poles were driven out near the end of WW II by Ukrainian nationalists
- Now the site of a German memorial cemetery for soldiers killed in WW II
Rawa Ruska – Location Map
Rawa Ruska – Market Day, 1910

View probably looking south

Getty Images
Another View of the Rynek

Photograph © Karen G.R. Roekard
Geospatial Genealogy

- We have termed the linkage of records used for family history research with geospatial science, including GIS – “geospatial genealogy.”
- Builds on a growing field within Historical GIS of using GIS for genealogical research and visualization
- Goal: Visually rebuild lost settlements and communities, lost patterns, and rediscover lost people
Micro- vs. Macrogenealogy

- *Microgenealogy* is family history research that begins with a single individual and works its way out and back to build a family tree.

- *Macrogenealogy*, in our view, looks beyond individual family trees by combining data from a range of genealogical sources to create what Wagner calls a “community forest.”

- Examines a wide range of relationships within a community as they are revealed in the historical records –economic, social, cultural, and political relationships and patterns.
Some of Our Genealogical Data Sources

- Vital records
- Tabula Registers
- Kollel Galicia records
Vital Record Example: Marriage

Photograph © Karen G.R. Roekard
Tabula Registers – Record of Contracts
Kollel Galicia (Jerusalem) - Donations

Photographs © Karen G.R. Roekard
The Key – 1854 Cadastral Map

Photograph © Karen G.R. Roekard
Cadastral Mapping

- Cadastral maps show the boundaries and ownership of land parcels
  - Primary purpose: taxation
- Typically they also show, or are linked to, building numbers or addresses, property values, and other information
- Austrian Empire performed extensive cadastral surveying in the 1800s
GIS & Geospatial Macrogenealogy

- GIS provides the engine for building the spatial “community forest” of relationships throughout a town or region
- GIS also provides the power for database creation, query, and visualization
- BUT, genealogy databases are designed for a different purpose and reconciling them is one of our key challenges
GIS Databases

In GIS databases, the key piece of information is location, whether it be latitude and longitude or other map coordinate system.

Everything else in the GIS database is tied to the location
- E.g., street address, the name of the property owner, the number of occupants of the home, the value of the property, the size of the home, etc.
Putting Cadastral Maps Into GIS

- Start with scanned or photographed cadastral map
- Georeference/rectify cadastral map (i.e., fit it to a map projection and coordinate system)
- Digitize houses and other features – result is a vector data layer in GIS
- Add database information from genealogical records – “attribute” data (names, dates, places, events…)
Geospatial Genealogy – Hand Drawn Map
Jewish Householders Of Rawa Ruska, 1854

Photograph © Karen G.R. Roekard
Rawa Ruska Cadastral Map

Red houses are brick
Yellow houses are wood
Lot numbers listed for each house or building.
Building the Spatial Database
Digitizing the Houses
Completed House GIS Layer
Rawa’s House Database
# Linking Lot Numbers to House Numbers

<table>
<thead>
<tr>
<th>Lot Number</th>
<th>House Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>Baumwolle #26</td>
</tr>
</tbody>
</table>

Israel Grauer
Attribute Database
Simple Query for One House
A Second Query by Location
Querying by Surname Slepakura - 1
Querying by Surname Slepakura - 2
Querying by Surname Slepakura - 3
Query for Jewish Residents

SELECT * FROM RawaRuska_1854 WHERE:
"Rel" = 'J'
Map of Jewish Residents, 1854
Cadastral Maps in Google Earth

Cadastral maps (or any accurately surveyed maps) can be added into Google Earth as *Image Overlays.*

A slider can then be used to adjust the transparency of the cadastral map, letting you compare it with present-day satellite imagery.

It becomes a tool to see which features in former landscapes still remain and which have disappeared.
High resolution satellite imagery added in late 2009
DigitalGlobe – Winter Scene
Using Google Earth to Reveal Changes

- **Ghost features**: landscape features that no longer are visible
- **Relict features**: surviving features or remnants of features
“Ghost Features”

The building in the middle of the town square and the synagogue (right center) have both disappeared.

Most of the buildings fronting the town square are also gone.
“Relict Features”

The two Christian churches, Sct Josef and Sct Maria are still standing.
Yizkor Books

- Yizkor books are books compiled by Holocaust survivors in memory of their communities destroyed in the Holocaust.
- Valuable source for reconstructing pre-Holocaust life.
Yizkor Maps

- Many Yizkor books include sketch maps highlighting key features, especially those that were important to the Jewish community.

- Although not drawn to scale, Yizkor maps identify other specific sites of ghost and relict features.
  - E.g., ritual baths, schools, cemeteries.
Map from Rawa Ruska Yizkor Book
GPS – Returning “Home”

- Many of us desire to visit the sites of historical importance to our ancestors.
- Once homes or other locations (synagogue, cemetery) have been entered in GIS, their locations can be saved as GPS points.
- GPS can guide a return to sites in one’s ancestral town, even in cases where the features have been obliterated on the ground.
Synagogue Site – Cadastral Map
Synagogue Site – Google Earth
Geotagged Photos

- Photos with geographic location (latitude / longitude) coded in the metadata can be added to Google Earth or similar programs to give ground views of the exact location.

- Geotagging can be done:
  - Visually, provided you can identify on a map or satellite image where the photo was taken.
  - By matching time stamps on photos and GPS trackpoints using geotagging software.
  - Using a GPS-enabled camera, including those on smart phones.
GPS Tags in Photo

![EXIF Information](image)

- GPS information:
  - Version ID: 2.2.0.0
  - Latitude and Reference: 42°20.09', 0.; 42.334833°
  - Longitude and Reference: 0°22.76', 0.; 52.746000°
  - Altitude: 116 m
  - Time Stamp: 8:27:1.00, 2009:06:06
  - Date Stamp: 2009:06:06

- Other EXIF tags:
  - Digital Zoom Ratio: 1x
  - Scene Capture Type: Standard
  - Contrast, Saturation, Sharpness: Normal
  - White Balance: Auto
  - Gain Control: None
  - Subject Distance Range: Unknown

- Lyrics excerpt:

  I've been traveling from the ocean to the desert
  Searching for what I'm missing
  But every step I take, it seems like more to lose
  And I'm not sure where I'm going

  I'm not sure if you're real
  I'm not sure if you're just a dream
  But I'm not sure that I'm going to be
  If I can't find my way home
Challenges and Needs

- Data – many records have not yet been filmed, including cadastral maps, Tabula Registers, and others
- Access to records – policies and costs
- Languages! (German, Latin, Ukrainian, Russian, Polish, Yiddish, Hebrew)
- Reconciling database differences (GIS vs. GEDCOM)
The Agenda – Dreams

- Build the Rawa Ruska database through time and space
  - Many records remain untapped
- Visualization, e.g., of patterns through time (vs. static snapshots)
  - E.g., movement of Jews to Rynek
- Explore visual patterns to understand processes (and vice versa)
- Make maps and DBs available via free GIS viewers and web tools
Presentations and Papers

- United States Holocaust Memorial Museum
- Association of American Geographers
- Family History Technology Workshop
- International Association of Jewish Genealogical Societies
Thank you!